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UNITED STATES DISTRICT COURT

DISTRICT OF OREGON

EUGENE DIVISION

MARK A. MANN,	**Case No. 6:14-cv-01774-AA**
Plaintiff,	
v.	**DECLARATION OF JUAN P. AGUIRRE IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT**
UNITED STATES OF AMERICA,	
Defendant.	

I,   Juan P. Aguirre, declare and state as follows:

1.   Because of the numerous technological terms referred to in this declaration, I have

attached an exhibit with my definitions of the following relevant terms: Cross Section,

Cross Section Interval, CADD, DGN, GEOPAK, GPK, TIN, DTM, Surface, XML,

LandXML, CSV, Text Style, ASCII, XSR, XTB, and DAT.   Exhibit 1.

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2.   The Western Federal Lands Highway Division (WFLHD) is part of the Federal

Highway Administration and within the U.S. Department of Transportation.   WFLHD

administers the surveying, designing, and constructing of roads and highways on federal

land in Oregon, Washington, Idaho, Montana, and Alaska.

3.   I am currently the Engineering Systems Coordinator for WFLHD and have held this

position since 2009.   In 2004, I began work as a senior designer for the agency.   My

major duties include conducting GEOPAK Road software training, documentation, and

technical support to all employees in Computer Aided Drafting & Design (CADD)

platforms.   I also provide technical assistance to entry level, junior, and senior designers

to resolve GEOPAK software issues dealing with design, cross sections, and reports for

road and highway projects on federal lands.

4.   The Tiller Trail Highway Project, between Canyonville and Trail, Oregon, was

approximately one-mile long.   The project involved grading, slope stabilization, drainage

improvements, and asphalt paving. Construction work on the project was completed and

accepted by WFLHD on October 27, 2014.

5.   I reviewed Plaintiff's March 28, 2014, revised FOIA request to WFLHD.

Plaintiff's FOIA request, FOIA Control No. 2014-0234, requested the following

information relating to the Tiller Trail Highway Project: (1) GEOPAK CAD design file in

MicroStation DGN format; (2) LandXML ("XML") file of the horizontal and vertical

alignments; (3) XML file of the original ground surface, and (4) XML file of the final

design surface.

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6.   I also reviewed Plaintiff's September 29, 2014, FOIA request, FOIA Control No.

2014-0457, regarding the Tiller Trail Highway Project.   Plaintiff requested the following

information: (1) GEOPAK XS-List (cross-section files in XSR format) of the original

ground surface; (2) the horizontal and vertical alignments for the road design in XML

format; (3) the original ground three-dimensional surface date that is used to generate the

final design, generate earthwork quantities, and define existing site features such as

drainages, existing utilities, etc., in XML format; (4) the final design three-dimensional

surface data in XML format.

7.   I was consulted on this matter by WFLHD's FOIA coordinator, Telina Thompson,

while she processed Plaintiff's FOIA request.

8.   I have reviewed the project design files for the Tiller Trail Highway Project.   In

response to Plaintiff's FOIA requests, WFLHD did not produce XML files or XSR files for

the Tiller Trail Highway Project.   Although it is technically feasible for WFLHD to

produce the requested information in both the XML and XSR formats, the agency did not

produce the requested information to Plaintiff in these two formats for the following

reasons: (1) WFLHD does not create the requested information in these two formats,

except when needed in unique and specific circumstances; (2) it would be unduly

burdensome, in terms of time and resources, for WFLHD to create new files in these two

formats; and (3) WFLHD has provided Plaintiff the data that it would have used to create

these files into the two formats

9.   Providing the information requested by Plaintiff in XML and XSR formats would

require WFLHD to create engineering records that do not exist. The XML files of proposed horizontal alignment, vertical alignment, final design surface, and existing ground surface are not standard files created by WFLHD designers and these files are not normally used at any stage of the design process. The XSR files of original ground or proposed design is not a standard file created by WFLHD designers and is not ever used at any stage of the design process. Also, creating XML and XSR files is not part of the standard data provided by WFLHD to contractors who are constructing highway projects.

10.   Highway design expertise and many software operations and configurations are involved in production of a design project for a road or highway on federal land. Final cross sections are unique to each project of the highway design and must reflect the plans, specifications, estimate and design intent. Final cross sections are created using GEOPAK Road software and is labor and time intensive and a highly iterative process [the uses of the term "cross sections" from this point refers to intelligent drawings generated by GEOPAK Road software]. Additionally, automated cross sections are sometimes hand-edited by designers to assure they reflect plans as well as to correct automation shortcomings and to add project specific attributes. Each cross section drawing contains points and lines that are geometric and coordinately based. Each cross section file, contrary to plaintiff's assertions, does not contain raw data, ASCII files, text files, or reports embedded in the drawing. Rather, GEOPAK software tools are used to query the cross sections and extract the geometric and coordinate data from points and lines in the drawings and assemble the data in a text-style report and referred to an *ASCII text file*.

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GEOPAK software uses varied file extensions, such as XSR, XTB, and DAT to designate the report type and style but all the reports extracted from cross sections are text style reports (ASCII), including formats for proprietary survey machines.   Experienced highway designers use expert knowledge and engineering judgment to manage the software report operations and to quality control the resulting data to assure the reports are accurate to the cross sections, plans, and design intent.   I have personally created cross sections files thousands of times as part of my career here at WFLHD.   I routinely train and offer technical guidance on the production of cross sections and cross section reports.

11.   Producing final cross sections, running reports and quality checks is an intensive effort and requires highly skilled designers.   Designers who perform this type of work can be Highway Engineers, with a college degree, or can be Engineering Technicians, with an associate degree or on the job training.   Senior Designers, GS-12 rating, typically perform this type of work and have several years of experience performing design duties on large and complex projects as a junior designer.   Long and complex designs require more time and skill to produce accurate and high quality cross sections.   The same applies for running reports on long and complex projects.   The number of cross sections generated on any particular project is dictated by many factors.

12.   WFLHD has a standard list of report types that are provided as part of an awarded contract.   In particular, WFLHD produces information of the final design surfaces in a CSV file to its contractors for construction of highway projects.   Exhibit 2.[1]   The CSV

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[1]   Exhibit 2 is a true and correct copy of a document attached to the Tiller Trail Highway Project contract and it is kept in the regular course of business of WFLHD.

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file has a universal design, applicability and is nonproprietary.   These qualities allow the CSV file to be read by any person and therefore allow relatively easy quality assurance of the data to be shared.   Also the CSV file, being in electronic form, allows others to edit, segregate and/or parse the data for import (read) into other applications, survey machines or machine controllers.   The editing, segregating and/or parsing can be done by any number of widely available text-editing software.   I have personally conducted the creation of CSV files hundreds of times as part of my career here at WFLHD.   A CSV file would be produced in response to a FOIA request.

13.   Producing an XML file is a multi-step process.   After survey information is collected and design data is produced, the first step is producing a data (DAT) file from the cross sections using the GEOPAK reports tool.   The second step is to convert the data file to a TIN file using other GEOPAK terrain tools.   Once the TIN file is created it can be visualized and corrective steps applied for accuracy.   The third step is to convert the TIN file to a XML file using software tools.   At this stage of the procedure, the accuracy of an XML file cannot be verified without additional optional steps.   Using a separate software tool and to verify accuracy, the fourth step requires the XML file to be reimported back into a TIN file.   Using another software tool, a fifth step is to use a separate software tool to compare the initially produced TIN and the TIN produced from the created XML file. This tool compares the separate TIN files so that any errors can be corrected.   I have performed this multi-step procedure described here less than 10 times.

14.   The XSR file format is a type of text style report produced from querying cross sections

using GEOPAK Road software tools.   It is a specific format created by GEOPAK Road software. Producing an XSR files requires a complete set of cross sections drawings, GEOPAK Road software, and an understanding of road and highway design information.   This text style file is not used to further the design process or used in quality assurance here at WFLHD, further, I am not familiar what software or machine makes use of this text style file.   I have created an XSR file fewer than three times in my career at WFLHD. Although it is technically feasible for WFLHD to produce the requested information in the XSR format, WFLHD would have to create those records.

15.   Producing Horizontal and Vertical alignments are fundamental to highway design. GEOPAK Road design software makes use of a proprietary GEOPAK file that houses the coordinate geometry database containing alignments, points, lines, curves, and other geometric and coordinate data. The GEOPAK file is used in all stages of the design process.   GEOPAK Road software contains tools to export the Horizontal and Vertical alignments in the form of an XML file.   The XML file is not a standard file generated by WFLHD designers, is not used at any stage of the design process, and has not been part of the standard contractual information provided by WFLHD to contractors for construction of highway projects.   I have personally created XML files of horizontal and vertical alignments fewer than 10 times at WFLHD.

16.   I have reviewed the 21 files that were provided by WFLHD to Plaintiff on May 1, 2014. The 21 files include a GEOPAK Road GPK file and 20 additional design drawings in the MicroStation DGN format. With these files (cross-section files of original and final ground surfaces, pattern, plan, profile and shape) and the use of GEOPAK Road software,

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the XSR reports and XML files can be produced by the Plaintiff.

17.   Creating XSR and XML files as requested by Plaintiff's September 29, 2014, FOIA

request, FOIA Control No. 2014-0457, regarding the Tiller Trail Highway Project, would

involve a substantial amount of work hours by an experienced Senior Designer and with

consultation with the original Designer.   I have reviewed the project cross sections and

consider the project cross sections complex.   I estimate producing and checking these files

would take 40 to 48 work hours.

18.   WFLHD construction projects are on the average 5-10 miles in length.   Cross

section intervals for these types of projects often start at larger intervals and during the

design process the final cross section interval is shortened according to alignment

complexity, design parameters, and engineering judgment. I have reviewed the cross

sections of the Tiller Trail Highway Project, approximate length of one (1) mile, and found

the cross section interval to be an average of 10 feet.   While 10 feet may seem an

overabundance of cross sections, it is appropriate for this project due to the slope stability

work done, complex horizontal and vertical alignment, and the steep terrain on the project.

The final cross section interval on the average WFLHD construction project is 25 to 35

feet.

19.   The Plaintiff has been provided all of the information WFLHD maintains pertaining

to his requests on the Tiller Trail Highway Project but only in the electronic drawing

format in which WFLHD maintains it.

20.   The WFLHD files responsive to the Plaintiff's requests were only in the GPK and

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DGN formats.   WFLHD does not have the information the Plaintiff requested in the XSR

or XML file formats on the Tiller Trail Highway Project.

21.   I declare under penalty of perjury that the foregoing is true and correct.

EXECUTED on this _____4th_____ day of __May_____ 2015.

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JUAN P. AGUIRRE